Celestron Handheld Digital Microscope (HDM)
Model # 44300

Information, Specifications, and Instructions

Thank you for purchasing the Celestron Handheld Digital Microscope. We hope you will have years of fun and enjoyment with this fantastic product. You can observe numerous types of objects and take snapshot images or record video.

Word of caution:The LED light system built into the microscope is bright and please do not shine it into the eyes of anyone!

Computer Requirements

Operating Systems – Microsoft Windows 98/2000/ME/XP, and Vista. Apple Mac V10.3 and newer users can download driver and files from the Celestron website.
CD or DVD drive, USB port available

Specifications

Digital Camera – 0.3mp using a ¼" CMOS chip (640 x 480 pixels)
Video Frame Rate – 15 or 30fps
USB2.0 Cable – interface to PC
Magnifying Powers Available – 20x and 400x
Field of View – 2.1° (7.5mm) @ 20x and 0.4° (1.0mm) @ 400x
LED Illumination – white light
CD-ROM – for installation of the HDM driver and software
Operating Range & Storage Temperature – 5°F to 122°F (-15°C to 50°C)
Size – 5" x 1 3/8" (127mm x 35mm)
Weight – 3 oz. (85gr.)
Warranty – Two year limited
CE/FCC/RoHS – compliant
Made in China

Uses

This microscope can be used for virtually anything that traditional microscopes are used for:
Hobbyists, Educators, Medical Labs, Industrial Inspection, Engineering Applications, Teachers, Students, Research Projects, Science Applications, Doctors Offices, Police Agencies, Government Testing, Discovery and General Use by Consumers for Fun and Enjoyment

Below is an example of what type of visual or image magnification you can achieve.

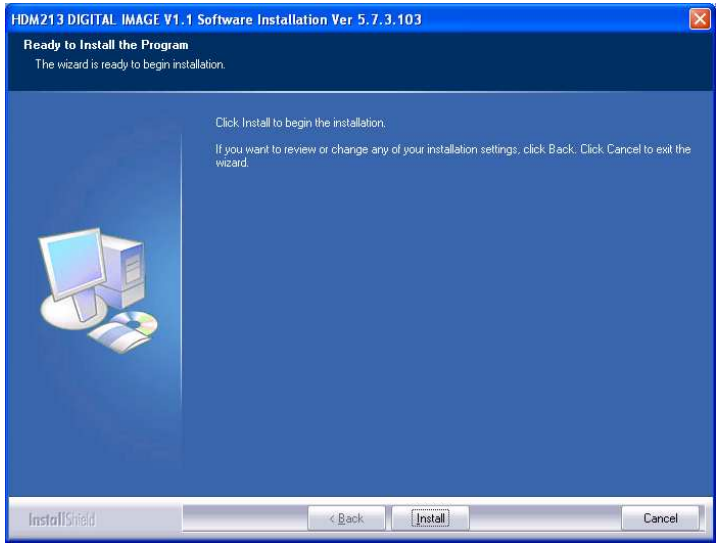
From left to right --- Digital camera image @ 1x, then HDM @ 20x, and HDM @ 400x

Getting Started

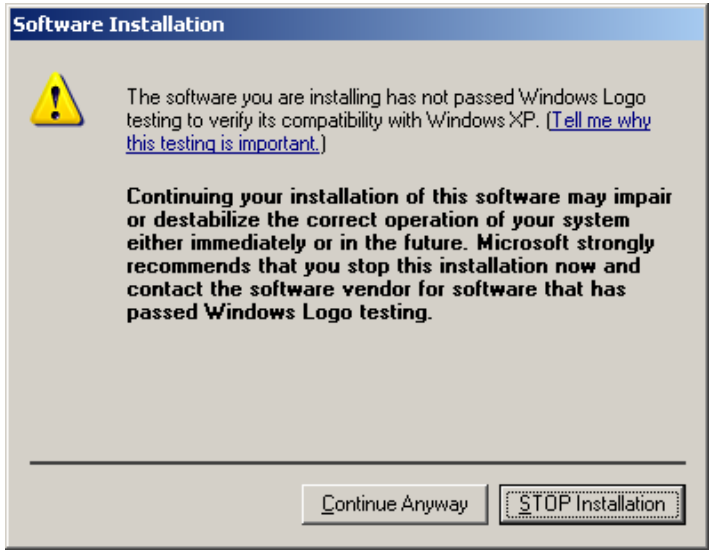
Before using your handheld digital microscope (HDM) , you first need to install the driver, software, and related files. This is a short and easy process.

First, put the Celestron Installation CD-ROM in your computer CD/DVD drive. ***Do not connect the USB cable of the microscope to the computer until after the driver is installed or your microscope will not work!***
Note: Different versions of Microsoft Operating Systems (and even among the same systems) will show some variations in the screens you see during installation. Just follow the screen instructions and you should have no problems with the installation.

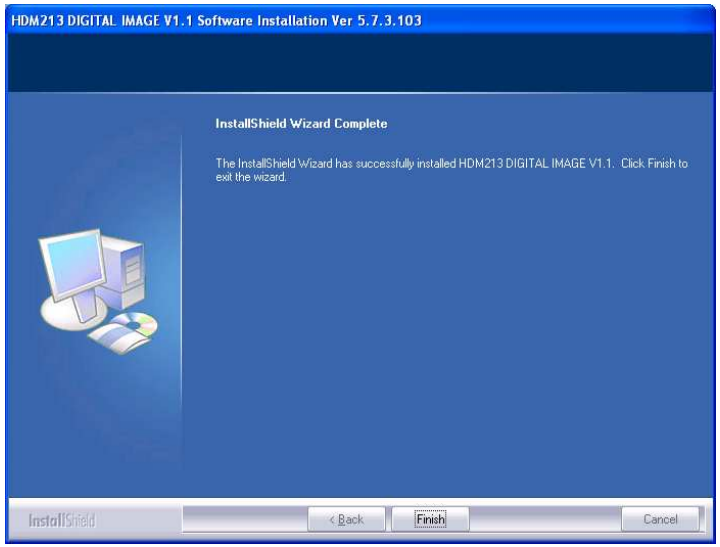
The InstallShield installation wizard window will open and say “Ready to Install the Program”.



Click “Install” and the installation will automatically install the driver and related files.



Before the installation is complete, it is possible that you will see this screen if using Windows XP. If so, click on “Continue Anyway” as the program for the HDM will not harm your computer.

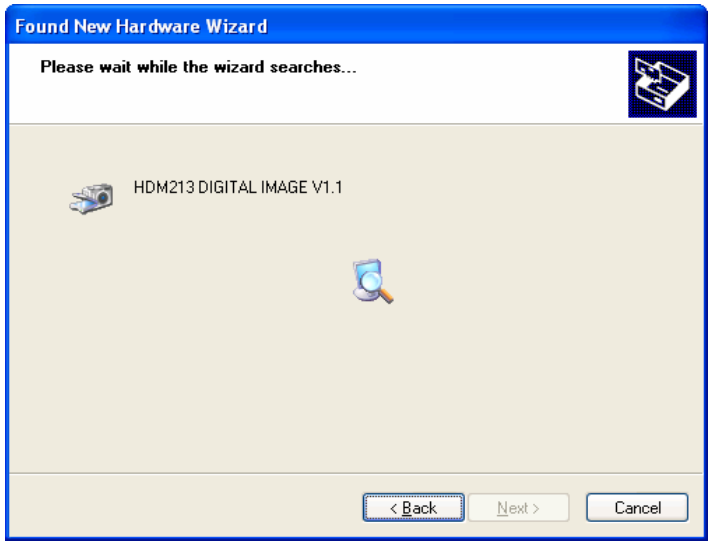


When complete, the InstallShield window opens and says "InstallShield Wizard Complete" and you will then click "Finish".

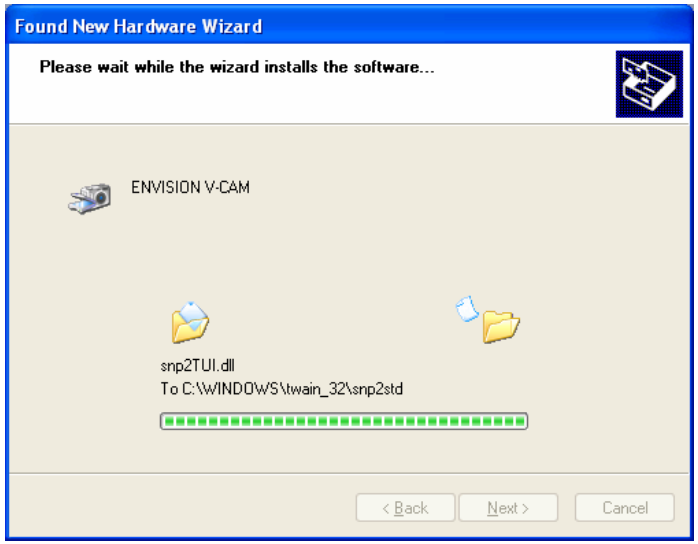
Next, connect the USB cable (which is attached to the digital microscope) to your computer. The LED illumination will automatically come on at the bottom of the microscope. At the bottom of your screen you will see a small pop-up that says "Found New Hardware" and "USB20Camera" and then "Envision V-Cam".

A window will open that says "Welcome to the Found New Hardware Wizard". This wizard helps you install the software for the digital microscope (AMCap).

The wizard will ask you to insert the installation CD. Leave the circle checked "install the software automatically" and then click "Next".

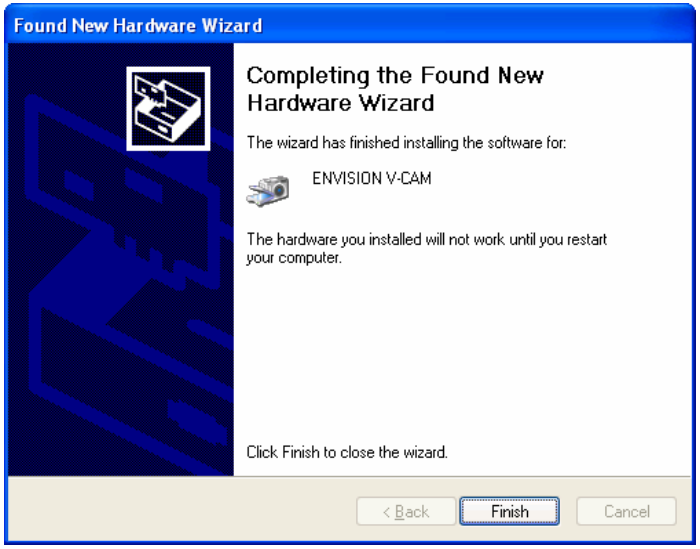


A screen will come up noting “Please wait while the wizard searches…” (for the device) and this can take a few or several minutes to complete depending on your particular computer.



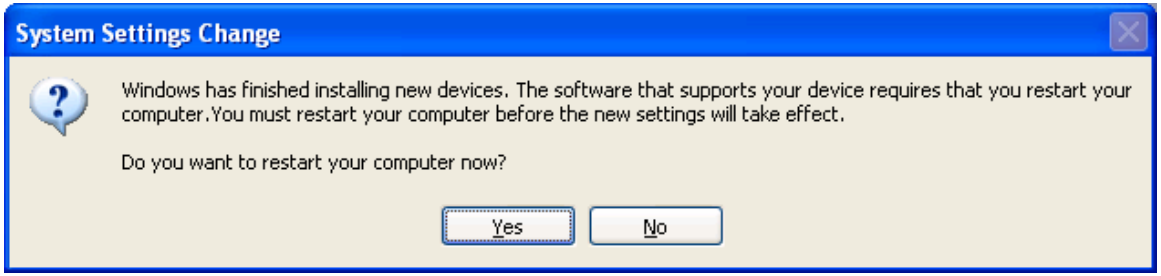
When the device is found, then a screen comes up saying “Please wait while the wizard installs the software…”.

Note: You may on some computers now see a screen somewhat similar to the warning on page four. Just click on "Continue Anyway" as no harm will come to your computer.



Then a screen comes up "Completing the Found New Hardware Wizard" and it notes that the wizard has finished installing the software. It further states that the hardware installed will not work until you restart your computer. Click "Finish" to close the wizard. You can remove the installation CD from the CD/DVD drive as it is no longer needed.

A screen will come up asking you if you want to restart your computer. Make sure all open programs are closed and then click "Yes" to restart your computer.



Now you are ready to use your Celestron digital microscope.

Push “Click” on the top of the microscope. On most computers a screen will open up “Choose Application” and you have a choice of picking from various imaging applications you may have on your computer – Note: if you do not see this screen, please see the section below.

You can choose whichever imaging program you wish for video or snapshots. Once you have done this you can begin using your microscope.

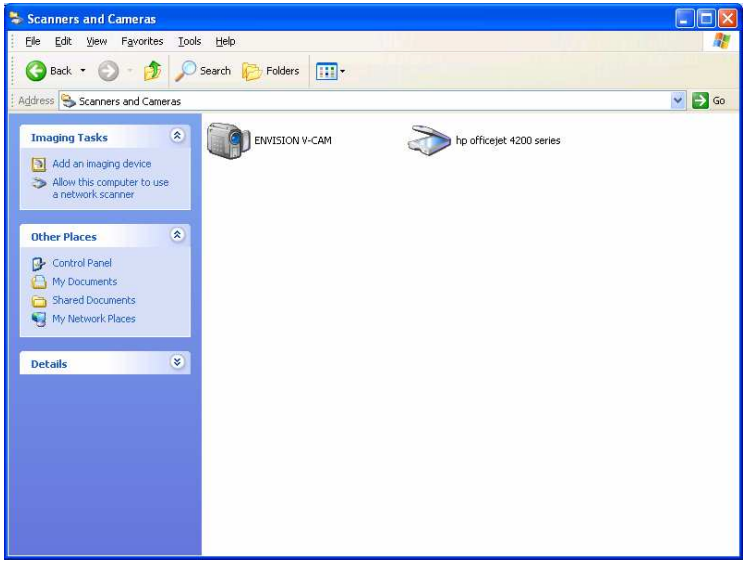
If you choose AMCap (which was on the installation CD), the AMCap screen will open up and the green light on top of the HDM will come on indicating it is ready to use. Typically you will automatically be in the "preview" mode but if not, go to "options" and check "Preview".

If you want to do video imaging, you should first set files, allocation of file space, etc. from the AMCap tool bar. Once settings are done you are ready to image. To begin ("start capture") and end ("stop capture") videos, you click "start capture" and "stop capture" from your keyboard and not from the "click" on the microscope. After you are done imaging you can view your video from the file location you set up.

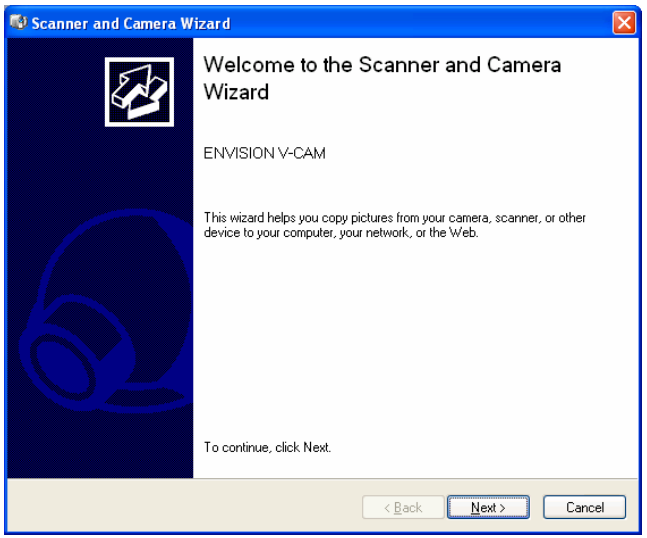
AMCap is mainly a software program for taking videos but you can use AMCap for snapshot images but it is done one image at a time. In other words, you preview and focus the object you choose and then push "click" on the microscope and the image will be taken. Then, you need to save the image and when done you can take and save another image.

For imaging single shots (snapshots), it is better to use other imaging software. Normally some programs are included when you purchased your computer or you may have purchased specialized software imaging programs you can use. From “Choose Application” you can pick which program to use.

If you do not have any programs to choose from, there is another way to make snapshots easier on most computers. You can go to “Control Panel” and find “Scanners and Cameras”. You will see “Envision V-Cam” and double click on it.

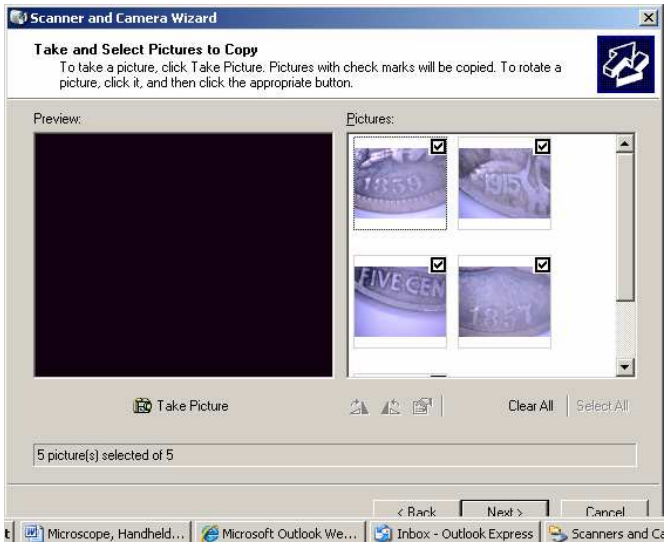


The green light at the top of the HDM will come on indicating it is ready to use.



The screen will show “Welcome to the Scanner and Camera Wizard” and then click “Next”.

The wizard screen shows “Take and Select Pictures to Copy”.



The “Preview” mode will be on the left half of the screen and you can then focus sharply the object you want to image. When ready, push “click” on the microscope and the picture will show up under “Pictures” on the right half of the screen. Continue taking as many images as you want until done.

Now you want to save the pictures to your computer files. First click “Next” and the screen allows you to “Choose Picture Name and Destination” and then click “Next”. You can select the images you want to save and then click “Next” and your pictures will be copied to your computer as you selected. The wizard will then give you “Other Options”. If you are done, check that option, and click “Next” and the screen will show “Completing the Scanner and Camera Wizard”, and click “Finish” to close the wizard.

Focusing and Taking Images

You can view and take images at powers of 20x or 400x. You should begin with viewing and imaging at 20x and then you can go to 400x. Turn the knurled knob completely to the left until it stops. Once you have the object you want to see, put the microscope over or on it and focus sharply. To focus, you rotate the knurled knob slightly to the right to find the sharpest focus position.

You can rotate the HDM to obtain the correct orientation you choose.

If you want to take an image, make sure you hold the HDM steady and then push the "click" button to take an image.

You can then look and/or take an image at 400x.. To do this, rotate the knurled knob to the right all the way until it stops. Then, rotate the knob slightly to the left until the object is sharply focused. Hold the HDM steady (this is a little more difficult than at 20x) and push the "click" button to take the image. For objects that you cannot put the HDM over or on, you can pick up the microscope and point it at an object up to a few feet away. To do this kind of viewing and or imaging you must hold the HDM as steady as possible. Results will come out best when you use 20x and the closer to the object the better.

To see additional examples of images taken with the HDM, please go to the Celestron website.

FCC Statement

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

RoHS

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